EXHIBIT D

Bright MLS

On MLS Study

Measuring the Benefits of an Open Marketplace

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Study Authors

Kevin C. Gillen, PhD, Senior Research Fellow, Lindy Institute for Urban Innovation and Adjunct Professor of Finance at Drexel University

Ken Schneider, Vice President, Strategic Initiatives at Bright MLS

Lisa Sturtevant, PhD, Chief Economist at Bright MLS

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Summary

Most homes are listed and sold on a multiple listing service (MLS), a cooperative database that helps real estate brokers and agents connect buyers and sellers and facilitate home sales transactions. In the Bright MLS footprint, which covers six states and the District of Columbia, there were over 330,000 home sales transactions through the MLS in 2021. More than 80% of all home sales in this region are listed and marketed on the MLS. For real estate professionals, the MLS helps their business be much more efficient. And there are also are significant benefits to the MLS for consumers.

Over the past few years, demand for housing has been very strong and homes have been selling quickly. Homes regularly sold for above the seller's asking price, and buyers often waived inspections or other contingencies, or made an all-cash offer in order to be competitive. Given how quickly homes have been selling, it is logical to ask the question – What is the benefit of the cooperative MLS to buyers and sellers? This research demonstrates that even when we are in a market when it is "easy" to sell a home, the Bright MLS creates a more competitive market for housing, resulting in better offers and quicker transactions.

The MLS provides a tangible benefit to buyers, as it ensures all prospective buyers have equal access to information on all homes available for sale. The MLS also benefits sellers, as it supports competition for their home and encourages the best possible offer. Bright MLS' Chief Economist and data scientists, in partnership with associated university researchers, conducted a study of the impacts of the MLS in the Mid-Atlantic. This research builds on and enhances prior analysis conducted in 2021 on the advantages associated with selling a home on-MLS. Using a careful data filtering process and a rigorous empirical methodology to ensure comparable on- and off-MLS properties, and employing a multivariate statistical analysis, this research finds that homes sold on-MLS commanded a 13.0% higher price than those sold off-MLS over the period 2019 through the first quarter of 2022.

The study also analyzed office exclusives — transactions where the listing brokerage firm markets a home only to other agents within the same firm and which are a growing share of off-MLS listings. There may be reasons sellers request an office exclusive listing if they do not want their home marketed to a wide audience. However, office exclusives can create inequalities in the housing market by limiting access to subsets of prospective buyers. Furthermore, this research finds that homes promoted as an office exclusive take longer to sell and bring the seller a lower price than homes marketed through the MLS.

The benefits associated with selling a home on the MLS are clear, even during the fast-paced market of the last two years. This research ultimately concludes that the open, clear, and competitive marketplace created by the MLS generates the best outcomes for consumers.

Introduction

At its essence, a multiple listing service (MLS) is an agreement among real estate brokers to cooperatively share information. An MLS is used by participating real estate brokers to provide information about homes for sale and to facilitate home sale transactions. Bright MLS is one of the largest MLSs in the country, spanning six states and the District of Columbia and helps drive the business of more than 100,000 real estate professionals who serve millions of home buyers and sellers across the Mid-Atlantic.

For buyers, the MLS helps ensure that everyone can see all properties available for sale with access to the same information about available properties. The MLS also makes the home search process more efficient by allowing real estate agents and consumers to search properties quickly and conveniently, without having to contact different real estate brokers. The MLS benefits sellers, too, as it serves as a one-stop shop, allowing the greatest number of prospective homebuyers to view their homes. As a result, sellers get the most competitive offer for their home.

Larger MLSs have been shown to enhance competition in the real estate market by reducing search costs for buyers and increasing listing exposure for sellers.[i] Several studies have analyzed the benefits of an MLS to consumers, finding that the MLS can lead to higher sales prices and faster transaction times compared to sales conducted off the MLS (e.g., for-sale by owner and office exclusive listings).[ii] Most prior research has examined relatively small markets and has not analyzed the MLS's impact in recent years when housing demand was particularly strong, fueled by increased savings, historically low mortgage rates, and work-from-home trends. This study builds off of and enhances a study conducted by Bright MLS and affiliated researchers in 2021[iii] to provide the most comprehensive and timely analysis of the benefits of the MLS to consumers.

ABOUT BRIGHT

Bright's industry-leading MLS supports more than 100,000 real estate professionals who serve millions of home buyers and sellers across six states[iv] and the District of Columbia. Due to its broad geographic coverage, the Bright MLS service area is a microcosm of all types of residential real estate available – from urban condos, suburban family homes, waterfront properties, farms, mountain getaways, and everything in between. In 2021 alone, Bright MLS subscribers facilitated more than $141 billion in real estate transactions, helping more than half a million consumers buy or sell a home.

HOW THIS STUDY DIFFERS FROM LAST YEAR'S

In 2021, Bright MLS and external research partners examined differences in the prices of properties sold on and off the MLS. The 2021 study was the beginning of this important analysis of benefits of the MLS to consumers. The methodology used in the 2021 analysis ultimately found that for typical mid-market homes, homes sold on-MLS had prices that were 17.0% higher than homes sold off-MLS.

The 2021 study represented a first-of-its kind analysis to link MLS and public record data, creating a comprehensive dataset of home sales transactions that could be used to compare on- and off-MLS sales.

The current study builds on that prior research and responds to industry feedback by enhancing the data filtering and cleaning process and by using a rigorous multivariate regression-based analysis. The current study's methodology and extra year and a half of data ultimately confirm the findings from the prior study. The current study's larger data set also adds allows for an evaluation of on- and off-MLS transactions during the height of the recent robust housing market.

An enhanced data cleaning process was used for the updated study, which standardized MLS and public record data across five states[v] and the District of Columbia (representing more than 60 counties) to successfully filter out:

- Between family members or close associates,
- "Flip Sales"; i.e. speculative sales of the same property within a few months,
- New Construction,
- Multiparcel "blanket" sales; i.e. sales of multiple properties from the same buyer to the same seller for a single price,
- Government purchases and sales; e.g. from HUD, Fannie Mæ, Freddie Mac, etc.,
- And other non-traditional sales (e.g., REOs, short sales, bank sales/purchases, auctions, etc.)

The resulting analysis utilizes a thoroughly filtered data sample that only includes single-family, residential, resale, and arm's-length transactions.

The 2021 study included a comparison of median home prices for on- and off-MLS transactions. The current research employs a rigorous multivariate analysis, which includes a range of property and neighborhood characteristics that impact home price. Controlling for these factors makes it easier to more reliably estimate the impact of a property being marketed on the MLS. Results from this research confirm the prior study's findings of a significant consumer benefit associated with listing and marketing a home on the MLS.

How the MLS Benefits Consumers

FOR BUYERS

- Creates a level playing field where all buyers have access to the same information about properties for sale.
- Increases the choices offered to consumers by ensuring that all homes for sale are available for buyers to see.
- Reduces search costs, allowing buyers to use one platform to search for homes in their market area.

FOR SELLERS

- Creates economies of both scale and scope, allowing information about the seller's listing to be disseminated broadly.
- Expands visibility of their property to more prospective home buyers, creating more competition and a greater number and variety of offers.
- Ensures sellers receive the most competitive offer for their property.

Methodology

Data

Bright MLS collaborated with external research partners to compare prices of homes that were marketed and sold on the MLS ("on-MLS") with the prices of homes that were sold off-MLS. This research analyzed more than 840,000 home sales transactions taking place in five states and the District of Columbia in 2019, 2020, 2021 and the first quarter of 2022. This study combined Bright MLS listing information—the comprehensive database of properties listed for sale by participating real estate brokers—with data from public records, which includes information on all home sales transactions, including those conducted outside of the MLS.

For this analysis, critical steps were taken to reconcile differences in public records data across 60+ individual counties and cities and to target only traditional arm's-length residential resale home sales transactions.

— **Identifying On- and Off—MLS Sales:** The Bright data was used to identify if a property was listed, shared cooperatively, and sold on-MLS. Public record sales were matched to MLS sales, and if the public record settlement date and the MLS closed date were within 30 days, or if the public records deed recording date and the MLS closed date were within 60 days, then the sale was considered on-MLS.

— **Including Only Arm's-Length Transactions:** An arm's-length transaction is one in which the buyers and sellers act independently and do not have any relationship to each other. Hence, each party only consummates the transaction if they perceive it to be in their own self-interest. As a result, the recorded sales prices can be considered a true "market" price. This study identifies traditional arm's-length residential resale transactions by excluding transactions (both on- and off-MLS transactions) where the sale price was less than $45,000 and where the unit's total living area was less than 500 square feet.

— **Excluding Short Sales:** Also excluded from the analysis are transactions that were short sales, foreclosures, sheriff's sales or auctions, along with multi-parcel sales, coop listings, corporate buyers, bank sales and new construction. In addition to these filters, both the Bright MLS and public record data were used to identify "flips"—that is, homes purchased by investors and quickly (within 12 months) turned around and resold. Homes identified as "flips" were excluded from the analysis.

— **Excluding Outliers:** Lastly, properties with characteristics that would be considered "outliers" were deleted from the sample. Properties in the top and bottom 1.5% of transactions based on the home's total living area, sales price, and price per square foot were removed for this analysis. The resulting dataset was comprised of 841,266 individual transactions taking place between January 2019 and March 2022. The analysis determined that 701,309, or 83.4% of the transactions occurred on-MLS and 139,957 occurred off-MLS.

Study Approach

To estimate the impact of listing a home on the MLS compared to selling outside of the MLS, this analysis accounts for property and neighborhood characteristics that influence the selling price of a home. After adjusting for differences in across individual property and neighborhood characteristics , the model then isolates and measures the impact of the MLS. In other words, this approach is designed to compare two similar properties in similar neighborhoods and answer the question “What difference dœs it make if the home is listed and marketed on the MLS versus sold some other way?”

A whole range of factors were included as explanatory variables in the model, including property characteristics, such as property square footage and age, and neighborhood characteristics, such a median neighborhood income and distance to the central business district. As a result of restrictions and inconsistencies in the public records data, there were limits on the independent variables that could be included in the model. In particular, information on the number of bedrooms and bathrooms, which is consistently available for homes listed on the MLS, is not routinely collected or made available by local governments in the public records data. By contrast, total living area (square feet) is available more consistently in public records data. Despite these limitations, the models include a range of explanatory variables that account for both property and neighborhood characteristics in order to isolate and accurately measure the true impact of a home’s sale price versus whether it transacted on-MLS v. off-MLS. The model’s high R-squared values—which measures a regression model’s predictive accuracy—would seem to validate this empirical approach.

Variables

Dependent variable	Log of home price*
Independent variables	Single-family detached/townhome or condominium
	Age of the home
	New construction
	Total living area (square feet)
	Distance to the region's central business district
	Neighborhood characteristics (Census tract data)
	Homeownership rate
	Percent multifamily units
	Percent households with 2+ people
	Percent married-couple households
	Percent of adults with bachelor's degree or higher
	Percent of population age 65+
	Median household income

*The home price is logged so that the model's parameter estimates can be interpreted as percentages.

Models were run separately for single-family homes (which includes single-family detached homes, as well as townhomes) and condominiums[vi]. Separate models were also run for 2019, 2020, 2021 and the first quarter of 2022 and for each of the three major metropolitan areas in the Bright MLS footprint (Philadelphia, Baltimore, and Washington DC).

Results

The vast majority of homes sold in the Mid-Atlantic are listed on the MLS. Between January 2019 and March 2022, 83.4% of all homes sold were listed and marketed with Bright MLS. The highest share of on-MLS sales was in the Washington DC metro area (86.0%) and the lowest was in the Baltimore metro area (77.0%).

In the Mid-Atlantic, the share of homes sold on-MLS increased in 2020, likely reflecting the challenges associated with selling a home during the early months of the COVID-19 pandemic. The on-MLS share fell in 2021 but rebounded in the first quarter of 2022, when 86.0% of all Mid-Atlantic sales took place on the MLS.

Share of On-MLS Home Sales

Region	2019-2022	2019	2020	2021	Q1 2022
Mid-Atlantic	83.4%	82.6%	84.7%	82.0%	86.0%
Philadelphia	85.0%	82.2%	85.9%	85.1%	88.6%
Baltimore	77.0%	82.2%	81.8%	70.2%	76.4%
Washington DC	86.0%	83.7%	86.1%	86.1%	89.8%

Between 2019 and 2022, **the Typical Home Sold for 13.0% More When Listed on the MLS**—a Premium of $45,471 Compared to Homes Sold Off-MLS in the Mid-Atlantic.

Homes listed and sold on the MLS sold for an average of 13.0% more than comparable homes sold off-MLS. After controlling for property and neighborhood characteristics, this analysis found that homes marketed and sold on the Bright MLS between 2019 and the first quarter of 2022 had sales prices that were 13.0% higher than comparable homes that were not listed on the MLS. This amounts to an additional $45,471 to the seller for the typical home sold over the study period. On average, homes selling off-MLS over this time frame sold for $349,773 while similar properties sold on-MLS sold for $395,244.

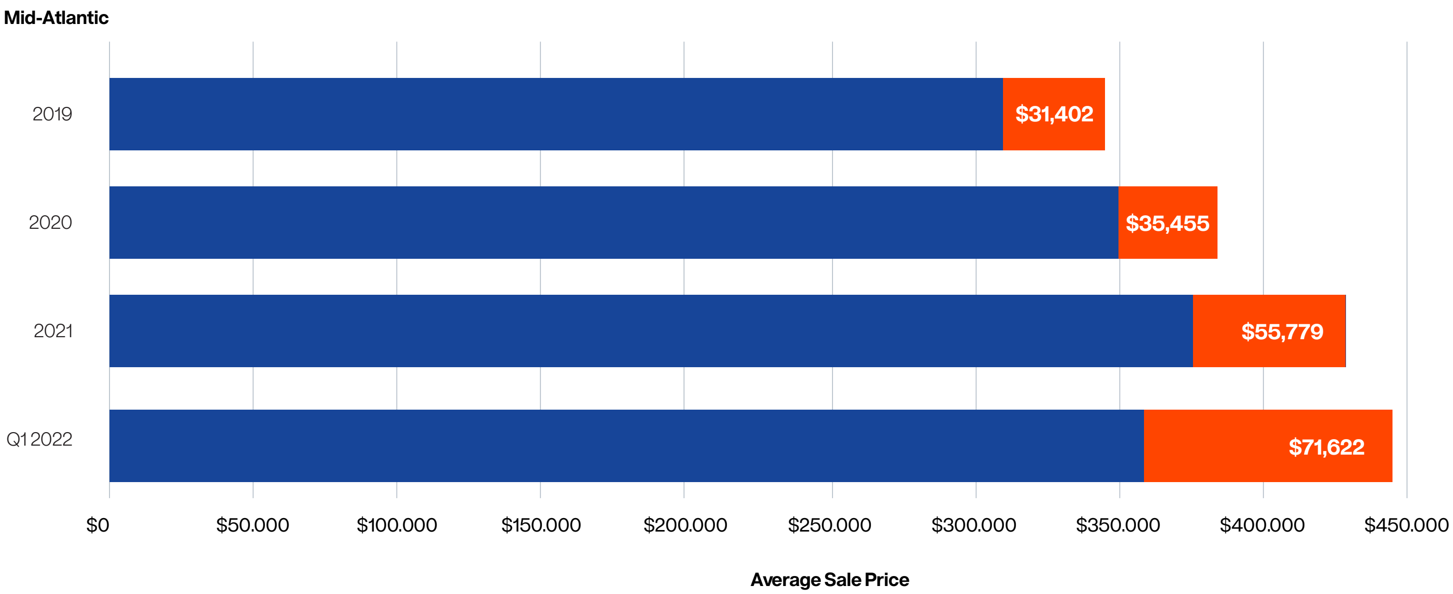
There were price premiums associated with the MLS across the Mid-Atlantic's three major metro areas, with on-MLS properties commanding 10.5% higher prices, on average, in the Philadelphia metro area, 10.1% higher in the Baltimore metro area, and 14.9% higher in the Washington DC metro area.

Results from Multivariate Analysis: Increase in Home Price Associated with Listing on Bright MLS*

Region	2019-2022	2019	2020	2021	Q1 2022*
Mid-Atlantic	13.0%	9.8%	10.1%	14.8%	19.7%
Philadelphia	10.5%	7.6%	8.0%	11.2%	15.3%
Baltimore	10.1%	13.0%	10.2%	10.6%	17.3%
Washington DC	14.9%	11.5%	11.5%	16.5%	21.2%

*Full regression results available from the study authors.

Seller Benefits Associated with Selling On-MLS



The on-MLS price premium generally increased over the study period. In 2019, homes sold in the Mid-Atlantic on the MLS commanded 9.8% higher prices than those sold off-MLS, a $31,402 price premium. In 2021, on-MLS homes sold for an average of 14.8% than off-MLS properties, on average, which translates into a $55,779 price premium.

The impact increased even more in the first quarter of 2022. The bigger impact reported for 2022 likely reflects seasonality in the housing market. However, the 2022 results strongly suggest that there continues to be a price premium associated with listing and selling a home on the MLS.

In 2021, on-MLS homes sold for 14.8% than off-MLS properties, on average, which translates into a $55,779 price premium.

Office Exclusives

Office exclusive sales result in lower offers and extended days on market. An office exclusive is a particular kind of off-MLS transaction where the listing firm markets the home only within the broker's firm. The listing is not entered into the MLS and is not marketed publicly. Sellers might request an office exclusive listing if they do not want their home openly marketed to the public. While there may be certain circumstances where an office exclusive listing offers benefits to the seller, for example when widespread knowledge of the listing is not desired due to legitimate privacy concerns, promoting a home as an office exclusive generally correlates with a lower sales price and a longer lead time.

Because office exclusives by their very nature and design limit the number of people who are able to view a home, many prospective buyers are left out. The lack of access to listings is not spread evenly across the housing market. Recent research found that office exclusive listings tend to exclude non-white buyers at higher rates, exacerbating racial and economic inequalities in the housing market.[vii]

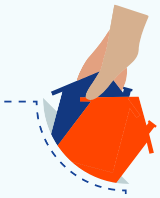
While office exclusives are not marketed on the MLS, listing firms submit information about an office exclusive listing to Bright MLS. Between April and December 2021, there were about 5,600 office exclusive listings throughout the Bright MLS footprint. The number of office exclusives in the region increased between 2020 and 2021 but remains a relatively small share of the total off-MLS transactions.

What is an office exclusive?

A transaction where the listing brokerage firm markets a home only to other agents within the same firm.

Ultimately, most homes that begin as office exclusives are not successfully sold that way, which extends the time period for a sale. Only 12.6% of properties that were initially marketed as office exclusives were successfully sold as an office exclusive. Nearly two-thirds (63.0%) of office exclusives were eventually promoted and sold on Bright MLS. The remaining 24.4% of properties marketed as office exclusives between April 2021 and December 2021 had still not sold or may have been removed from the market as of the end of the first quarter of 2022.

The study results also apply to office exclusives: Promoting a prior office exclusive listing by entering it into the MLS brings in a better price for the seller. Over the April 2021 through December 2021 period, homes that were originally marketed as an office exclusive but ultimately were listed on the MLS sold for 22.2% more than homes that were sold as an office exclusive. Homes also tended to sell more quickly when they were listed and marketed on the MLS than when they were promoted as office exclusives. The median days to a contract for homes selling on the MLS between April 2021 and December 2021 was 7. Homes that switched from an office exclusive to an MLS listing were on the market typically for 18 days before they then sold in 6 days on the MLS.



Office exclusives limit buyers' access to listings, which can reinforce inequalities in the housing market.

Source: Korver-Glenn, Elizabeth. 2018

Total Office Exclusives:	**5,599**	**100.0%**
Eventually listed and sold on the MLS	3,525	63.0%
Sold off-MLS	703	12.6%
Not sold (as of March 31, 2022)	1,371	24.4%

Days to Contract (Median)	
On-MLS sales	7 days
Office exclusives that ultimately sell on-MLS	24 days
Excess time to seller with office exclusive	18 days

Median Sales Prices	
Office exclusives sold on the MLS	$550,000
Office exclusives sold off-MLS	$450,000
On-MLS premium	22.2%

[I] Bradbury, James S. 2019. Revenge of the Realtors: The Procompetitive Case for Consolidating Multiple Listings Services. University of Colorado Law Review.

[II] See, for example, Sklarz, Michæl and Norman Miller. 2017. Saving Real Estate Commissions at Any Price. Collateral Analytics; Li, Lingxiao and Abdullah Yavas. 2015. The Impact of a Multiple Listing Service. Real Estate Economics 43(2): 471-506; Hendel, Iglal, Aviv Nevo, and Francois Ortalo-Magne. 2007. The Relative Performance of Real Estate Marketing Platforms: MLS Versus FSBOMadison.com," NBER Working Paper Series Working Paper 13360; and Bernheim, B. Douglas and Jonathan Meer. 2007. How Much Do Real Estate Brokers Add? A Case Study. SIEPR Discussion Paper No. 06-41.

[III] On/Off MLS Study. 2021. https://brightmls.com/article/on-off-mls-study

[IV] Maryland, New Jersey, Pennsylvania, Virginia, Delaware, and West Virginia

[V] Public records data were not readily available from West Virginia, so transactions in that state were excluded from this analysis.

[VI] Combined single-family and condominium estimates are included in this report. Contact the study authors for separate estimates for the different housing types.\

[VII] Korver-Glenn, Elizabeth. 2018. Brokering Ties and Inequality: How White Real Estate Agents Recreate Advantage and Exclusion in Urban Housing Markets. Social Currents 5(4): 350-368.

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All inquiries regarding this report may be directed to:

Christy Reap, Director of Media Relations

Christy.Reap@Brightmls.com | 202-309-9362

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TECHNICAL APPENDIX

The results in this report are based upon a well-established approach in the economics literature known as a "hedonic regression"

In 1974, Sherwin Rosen first presented a theory of hedonic pricing in one of the most well-cited papers in the economics literature: "Hedonic Pricing and Implicit Markets: Product Differentiation in Pure Competition[1]," affiliated with the University of Rochester and Harvard University. In the publication, Rosen argues that an item's total price can be thought of as a sum of the price of each of its individual attributes. An item's price can also be regressed on these unique characteristics to determine the effect of each characteristic on its price.

The basic intuition of a hedonic regression—as it applies to housing—is that the total value of a home is the sum of its individual characteristics. This includes its physical characteristics (e.g. size, condition, design), locational characteristics (e.g. proximity to amenities—such as parks, restaurants and dry cleaners, neighborhood quality of life, amount of greenspace) and fiscal characteristics of its city or town (e.g. school quality, frequency of trash collection, quality of roads and parks, etc.)

As an empirical strategy, this report utilized a hedonic regression that is employed to control for and isolate all of the above factors, in order to uncover and isolate the effect of a dwelling selling off- v. on-MLS.

The empirical specification that was used is a standard one that has a strong standing in the academic literature:

$y_i=\beta 0+\beta 1x_{i1}+\beta 2x_{i2}+...+\beta x_{ip}+\varepsilon_i$

Where:

- y_i=the natural log of the i^{th} property's price
- i=indexes each observation in the sample: i=1, 2, 3, ...N, where N=841,266
- p=indexes total number of control variables in the regression
- x_{ij}=the characteristic of the i^{th} property with the j^{th} characteristic; e.g. square footage
- $x_{ip}== \begin{cases} =0 \text{ if the transaction is off-MLS} \\ =1 \text{ if the transaction is on-MLS} \end{cases}$
- β_j=the estimated parameter coefficient on the j^{th} characteristic
- ε_i~i.i.d (0,1)

The value of β_p gives the value of an on-MLS transaction, after controlling for all other factors that determine a dwelling's value.

[1]New York University. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." Accessed Aug. 23, 2021.